WHAT IS CLAIMED IS:

1. A light emitting device comprising at least one electroluminescent element (1) and a diffraction type micro-optical element (12) arranged to influence light emitted by the electroluminescent element (1), **characterized in that** the diffractive optical features of the micro-optical element (12) are designed according to the position, size and shape of the one or more electroluminescent elements (1), and output light distribution of the one or more electroluminescent elements (1).

2. A light emitting device according to claim 1, wherein the electroluminescent element (1) is arranged in a housing (2) and/or substrate coupled to the micro-optical element (1), and the design of the diffractive optical features of the micro-optical element (12) also incorporates the shape and reflection characteristics of the underlying housing (2).

3. A light emitting device according to claim 1 or 2, wherein symmetry characteristics of the micro-optical element (12) correspond to symmetry characteristics of the electroluminescent element (1), as well as to the symmetry characteristics of the desired emission characteristics.

4. A light emitting device according to one of the claims 1 to 3, wherein the micro-optical structure (12) is shaped in an at least partially transparent layer (11) which layer (11) substantially covers a light emitting surface of the electroluminescent element (1).

5. A light emitting device according to claim 4, wherein the layer (11) does not substantially extend over the light emitting surface of the electroluminescent element (1).

6. A light emitting device according to one of the claims 1 to 5 comprising a housing and/or substrate (2) for accommodating the electroluminescent element (1) and current supply means for the electroluminescent element (1) , wherein the micro-optical element (12) is coupled to the housing and/or substrate (2).

7. A light emitting device according to claim 6, wherein said micro-optical element (12) is directly and essentially irreversibly fixed to the housing and/or substrate (2).

8. A light emitting device according to claim 6 or 7 comprising an LED body (22) with the electroluminescent element, a housing and/or substrate (2) and at least partially transparent material (3) surrounding the electroluminescent element (1), wherein said micro-optical element (12) is made up of micro-optical structures (12) on a surface of an at least partially transparent layer (11) attached to said LED body.

9. A light emitting device according to any one of the previous claims wherein said micro-optical element is made up of micro-optical structures (12) on a surface of at least partially transparent plastic material.

10. A light emitting device according to any one of the previous claims wherein said micro-optical element (12) comprises a plurality of independent sections each having an individual optical function.

11. A light emitting device according to any one of the previous claims, wherein said electroluminescent element (1) comprises a light emitting surface wherein the light emitting surface is covered by at least partially transparent material (3), the at least partially transparent material (3) defining a first surface, wherein an at least partially transparent layer sticks to said first surface and defines a second surface essentially parallel to said first surface, and wherein said micro-optical element (12) is made up of micro-optical structures present in said second surface.

12. A light emitting device according to any one of the previous claims, wherein said micro-optical structure (12) comprises features having characteristic depths and/or heights of between 0.5 micrometers and 200 micrometers.

13. A method for manufacturing a light emitting device comprising the steps of providing an LED body (22) comprising at least one electroluminescent element (1) and optionally a housing and/or substrate (2) and at least partially transparent material (3) with a surface, and of adding to said surface a structure serving as micro-optical element (12) for shaping and/or collimating light emitted by said at least one electroluminescent element (1).

14. A method as claimed in claim 13 comprising the steps of sticking a layer of an at least partially transparent material (11) on said LED body (22) and of

embossing in said surface a micro-structure (12) serving as said micro-optical element.

15. A method as claimed in claim 13 comprising the steps of casting on said surface an at least partially transparent layer (11) comprising a micro-structure (12) serving as said micro-optical element, and of curing said at least partially transparent layer (11), for example by thermo-curing, UV-curing, chemical curing.

16. A method for designing a micro-optical structure that is to be used in conjunction with an electroluminescent element, comprising the steps of

- modeling the light emission of the electroluminescent element (1) as an array of point sources, each point source having the same angular light distribution as the electroluminescent element as a whole, whereas the intensity is optionally adapted to a local emission strength of the electroluminescent element;
- optionally modeling light emission of secondary point sources corresponding to points where light leaving the electroluminescent element is reflected before reaching the micro-optical structure;
- designing, for the desired light beam shape, a beam shaping optic for each point source;
- combining the beam shaping optics for all point sources, generating a total optical function; and
- generating a surface profile for the micro-optical structure according to the total optical function.